

Appl. No. 10/826,715
Amdt. dated April 27, 2006
Reply to Office Action of January 27, 2006

REMARKS/ARGUMENTS

No claims are amended or canceled. Claims 31-33 are newly added. Claims 1 and 3-33 are now pending in the application. (Claim 2 was previously canceled.) Applicant respectfully requests reexamination and reconsideration of the application.

Applicant acknowledges with appreciation the Examiner's indication that claims 1, 3-6, 11-17, and 22-25 are allowable and claims 19-21 and 28-30 contain allowable subject matter. As discussed below, Applicant believes that all of the pending claims are now in condition for allowance.

Claims 7-10 were objected to on the grounds that they are redundant. Applicants respectfully traverse this objection. Claim 1—which is the claim from which each of claims 7-10 depends—recites “wherein said initial frequency corresponds to one of a quarter wave, a half wave, or an integer multiple of a quarter wave or half wave.” Claim 1 thus allows the initial frequency to be any of the following: a quarter wave, a half wave, an integer multiple of a quarter wave, or an integer multiple of a half wave. Claims 7 and 9, on the other hand, state that the initial frequency “corresponds to a quarter wave or an integer multiple of a quarter wave.” Claims 7 and 9 thus narrow the allowable initial frequency to a quarter wave or a multiple of a quarter wave. The recitation regarding the initial frequency in claims 7 and 9 is therefore not redundant of the recitation regarding the initial frequency in claim 1. Claims 8 and 10 likewise narrow the scope of the recitation in claim 1 regarding the initial frequency, stating that the initial frequency “corresponds to a half wave or an integer multiple of a half wave.” The objection to claims 7-10 should therefore be withdrawn.

Claim 18 was rejected under 35 USC 103(a) as obvious in view of US Patent No. 5,811,655 to Hashimoto et al. (“Hashimoto”) and US Patent No. 6,594,273 to McGibney (“McGibney”). In addition, claims 26 and 27 were rejected under 35 USC 102(b) as anticipated by US Patent No. 6,449,568 to Gerrish (“Gerrish”). Applicant respectfully traverses these rejections.

Turning first to the rejection of claim 18, the PTO acknowledges that Hashimoto lacks both envelope detectors and waveform detectors. To make up for these deficiencies in Hashimoto, the PTO asserts that it would be obvious to replace the delay time counter 82 in Hashimoto with the envelope detector 78 and peak detector 98 of McGibney “because both components are used for delay calibration.” Contrary to the assertion by the PTO, however, the

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delay counter 82 of Hashimoto, on one hand, and the envelop detector 78 and the peak detector 98 of McGibney, on the other hand, are not used for the same purposes. Hashimoto's delay counter 82 determines the propagation delay of a signal from OR gate 75 to terminal 54n. (See Hashimoto col. 2, lines 15-17.) In sharp contrast, the purposes of McGibney's envelope detector 78 and peak detector 98 have nothing to do with counting the time delay of a signal. Rather, the purpose of McGibney's envelope detector is to convert IF pulses to broadband to create a magnitude delay profile of other terminals on a network. (See McGibney col. 8, lines 42-45.) The purposes of McGibney's peak detector 98 are several, including determining the largest value in a series of samples from an A/D converter 80 (McGibney col. 9, lines 14-16), finding a synchronization slot when connecting to a network (McGibney col. 9, lines 18-20), and detecting a number of special conditions, such as loss of a synchronization signal and the presence of two or more closely spaced terminals on the network (McGibney col. 9, lines 25-65). There is no need in Hashimoto for any of the foregoing functions performed by McGibney's envelope detector 78 and peak detector 98 and therefore no motivation to replace Hashimoto's delay time counter 82 with McGibney's envelope detector 78 and peak detector 98. Indeed, Hashimoto's system would not function properly if such a replacement were made. Thus, the only possible basis for the combination of Hashimoto and McGibney is impermissible hindsight reconstruction. Therefore, it would not have been obvious to combine Hashimoto and McGibney. For this reason alone, the rejection of claim 18 should be withdrawn.

Moreover, even if combined (which Applicant asserts is improper as discussed above), the combination of Hashimoto and McGibney fails to disclose all of the recitations in claim 18. Claim 18 includes a signal generator "configured to sweep a calibration signal from an initial frequency through a range of frequencies." Hashimoto fails to teach or suggest that its timing generator 90 (which the PTO equated with the signal generator of claim 18) sweeps a calibration signal from an initial frequency through a range of frequencies. Rather, Hashimoto teaches that the timing generator 90 does nothing more than generate a pulse signal. (Hashimoto col. 2, lines 15-17.) McGibney does not make up for this deficiency in Hashimoto. For this additional reason, the rejection of claim 18 should be withdrawn.

Turning now to claim 26, Gerrish fails to teach or suggest several elements of claim 26.

For example, claim 26 recites "determining a first frequency of a calibration signal driven onto a proximal end of a transmission line while said transmission line is terminated in a known

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impedance that causes a particular condition in a varying standing wave on said transmission line." The PTO cites Gerrish column 3, lines 32-40 as allegedly teaching the foregoing features of claim 26. Claim 26, however, recites "determining a first frequency." Gerrish does not *determine* a frequency. Rather, Gerrish drives a *known* frequency and *determines* voltage and current pickup values for the known frequency. (Gerrish col. 3, lines 33-36.) Thus, at column 3, lines 32-40, Gerrish teaches determining a voltage and current pickup values—not a frequency that causes a particular condition in a standing wave on a transmission line.

As another example, Gerrish does not *determine* a second frequency. Rather, at column 3, lines 45-49, Gerrish teaches driving "a particular selected operating frequency" and applying stored correction coefficients to voltage and current pickup signals" to *determine* corrected voltage, current, and impedance values. Thus, at column 3, lines 45-49, Gerrish teaches determining corrected voltage, current, and impedance values—not a frequency that causes a particular condition in a standing wave on a transmission line.

Gerrish thus fails to anticipate claim 26.

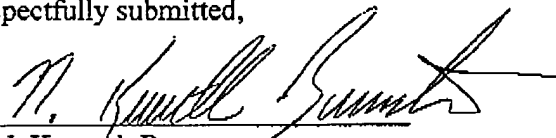
Claim 27, as well as new claims 31-33, depend from claim 26 and are therefore patentable at least due to their dependence from claim 26. In addition, Applicants respectfully asserts that Gerrish does not teach or suggest the additional features of claims 27 and 31-33.

In view of the foregoing, Applicant submits that all of the claims are allowable and the application is in condition for allowance. If the Examiner believes that a discussion with Applicant's attorney would be helpful, the Examiner is invited to contact the undersigned at (801) 323-5934.

Respectfully submitted,

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